

What is claimed is:

1. A peptide conferring environmental stress resistance to target protein, comprising at least one sequence selected from the group consisting of oligopeptide sequences of
5 at least about 10 but not more than about 50 continuous amino acid residues in the amino acid sequence of the C-terminal acidic tail of the synuclein family.
2. The peptide of claim 1, wherein the peptide
10 comprises the C-terminal acidic tail of the synuclein family.
3. The peptide of claim 2, wherein the C-terminal acidic tail region of the synuclein family is selected from amino acid residues 96-140 of α -synuclein, amino acid residues
15 85-134 of β -synuclein, amino acid residues 96-127 of γ -synuclein and amino acid residues 96-127 of synoretin.
4. The peptide of claim 3, wherein the C-terminal acidic tail of the synuclein family is selected from amino acid
20 residues 103-115, amino acid residues 114-126, amino acid residues 119-140 and amino acid residues 130-140 of α -synuclein.
5. The peptide of claim 1, wherein the synuclein family

is selected from the group consisting of α -synuclein, β -synuclein, γ -synuclein and synoretin.

6. The peptide of claim 1, wherein the synuclein is
5 human origin.

7. The peptide of claim 1, wherein the environmental stress is heat, pH or metals.

10 8. A method for preparing the peptide defined in claim 1, comprising chemically or recombinantly generating the peptide.

15 9. A fusion protein comprising the peptide of claim 1 and a fusion partner protein.

20 10. The fusion protein of claim 9, wherein the peptide binds to a position of an amino acid residue that does not affect the intrinsic properties of the fusion partner protein.

11. The fusion protein of claim 10, wherein the position of the amino acid residue is the N-terminus and/or the C-terminus of the fusion partner protein.

12. The fusion protein of claim 9, wherein the fusion partner protein is a protein which is unstable to environmental stress.

5 13. The fusion protein of claim 12, wherein the protein which is unstable to environmental stress is glutathione-S-transferase or Dihydrofolate reductase.

10 14. A nucleotide sequence encoding the peptide of claim 1.

 15. A nucleotide sequence encoding the protein of claim 9.

15 16. A primer pair for detecting DNA encoding a protein with environmental stress resistance, which is selected from the group consisting of a primer pair of SEQ ID NO:11 and SEQ ID NO:12, a primer pair of SEQ ID NO:11 and SEQ ID NO:13, a primer pair of SEQ ID NO:14 and SEQ ID NO:15, a primer pair of
20 SEQ ID NO:14 and SEQ ID NO:12, a primer pair of SEQ ID NO:16 and SEQ ID NO:17, a primer pair of SEQ ID NO:18 and SEQ ID NO:19, a primer pair of SEQ ID NO:20 and SEQ ID NO:21, a primer pair of SEQ ID NO:22 and SEQ ID NO:23, a primer pair of SEQ ID NO:24 and SEQ ID NO:25, a primer pair of SEQ ID NO:26 and SEQ

ID NO:27, a primer pair of SEQ ID NO:28 and SEQ ID NO:29, a primer pair of SEQ ID NO:30 and SEQ ID NO:31, a primer pair of SEQ ID NO:32 and SEQ ID NO:33, and a primer pair of SEQ ID NO:34 and SEQ ID NO:35.

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17. A recombinant vector containing the nucleotide sequence of claim 14.

18. A cell transformed or transfected with the recombinant vector of claim 17.

19. A method for preparing substantially pure fusion proteins showing environmental stress resistance while conserving intrinsic properties of the protein unstable to environmental stress, which comprises (a) inserting the DNA sequence encoding the fusion protein with environmental stress resistance of claim 15 into a vector containing one or more expression control sequences which is operably linked to the DNA sequence to regulate expression of the DNA sequence, (b) transforming or transfecting host cells with the resulting vector, (c) culturing the resulting transformants or transfectants in a proper medium under proper conditions so that the DNA sequence expresses, and (d) harvesting substantially pure proteins encoded by the DNA sequence from

the culture.